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L1: Entry 2 of 3

File: USPT

Aug 31, 1993

US-PAT-NO: 5241465

DOCUMENT-IDENTIFIER: US 5241465 A

TITLE: Method for determining optimum schedule in computer-aided scheduling system

DATE-ISSUED: August 31, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Oba; Michiko	Ikeda			JP
Komoda; Norihisa	Kawasaki			JP
Kawashima; Kazuhiro	Yokohama			JP
Hara; Keiichi	Kawasaki			JP

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Hitachi Ltd.	Tokyo			JP	03
Hitachi Microcomputer System Ltd.	Tokyo			JP	03

APPL-NO: 07/ 690820 [PALM]

DATE FILED: April 23, 1991

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	2-113742	April 27, 1990

INT-CL: [05] G06F 15/22, G06F 15/20

US-CL-ISSUED: 364/401; 364/402, 364/408

US-CL-CURRENT: 705/8

FIELD-OF-SEARCH: 364/401, 364/402, 364/408, 395/904

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

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Search ALL

Clear

PAT-NO

ISSUE-DATE

PATENTEE-NAME

US-CL

5111391

May 1992

Fields et al.

364/401

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ART-UNIT: 231

PRIMARY-EXAMINER: Envall, Jr.; Roy N.

ASSISTANT-EXAMINER: Tran; Khai

ATTY-AGENT-FIRM: Fay, Sharpe, Beall, Fagan, Minnich & McKee

ABSTRACT:

In a method for determining an optimum scheduling in a computer-aided scheduling system the data associated with a schedule to be generated is previously stored in a memory data. A strategy decision table showing therein one or more scheduling strategies suitable for a plurality of the states in a scheduling process is prepared. An optimization definition table indicating degree of improvement precedence or precedence order of the scheduling strategies of the evaluation items, where degree of improvement precedence is defined as degree of improvement of evaluation value of the evaluation item in changing of the scheduled strategy, is prepared. A schedule is generated by repetition of selecting and executing the scheduling strategies by using the strategy decision table. The other schedules are generated by changing the scheduling strategy selected in the state of the scheduling process by using the optimization definition table. An optimum schedule having the best evaluation value is selected.

10 Claims, 22 Drawing figures

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L1: Entry 1 of 3

File: USPT

Apr 7, 1998

US-PAT-NO: 5737728

DOCUMENT-IDENTIFIER: US 5737728 A

TITLE: System for resource assignment and scheduling

DATE-ISSUED: April 7, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sisley; Elizabeth M.	Woodbury	MN		
Collins; John E.	Hudson	WI		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE	CODE
Minnesota Mining and Manufacturing Company	Saint Paul	MN			02	

APPL-NO: 08/ 440770 [PALM]

DATE FILED: May 15, 1995

PARENT-CASE:

This is a continuation of application Ser. No. 08/201,664 filed Feb. 25, 1994, 5,467,268.

INT-CL: [06] G06 F 17/60

US-CL-ISSUED: 705/8; 705/9, 364/468.05, 364/468.06

US-CL-CURRENT: 705/8; 700/100, 700/99, 705/9

FIELD-OF-SEARCH: 364/41R, 364/402, 364/403, 364/468.05, 364/468.06, 395/902, 395/903, 395/906, 395/208, 395/209, 705/8

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

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	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/>	<u>4092718</u>	May 1978	Wendt	364/436
<input type="checkbox"/>	<u>4212069</u>	July 1980	Baumann	364/467
<input type="checkbox"/>	<u>4799162</u>	January 1989	Shinkawa et al.	364/436
<input type="checkbox"/>	<u>4937743</u>	June 1990	Rassman et al.	364/401

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<input type="checkbox"/>	<u>5255181</u>	October 1993	Chapman et al.	364/401
<input type="checkbox"/>	<u>5295065</u>	March 1994	Chapman et al.	364/401
<input type="checkbox"/>	<u>5325292</u>	June 1994	Crockett	364/401

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ART-UNIT: 241

PRIMARY-EXAMINER: Hayes; Gail O.

ASSISTANT-EXAMINER: Hughet; William N.

ATTY-AGENT-FIRM: Bauer; William D.

ABSTRACT:

A system and method for assigning and scheduling resource requests to resource providers use a modified "best-first" search technique that combines optimization, artificial intelligence, and constraint-processing to arrive at near-optimal assignment and scheduling solutions. In response to changes in a dynamic resource environment, potential changes to an existing assignment set are evaluated in a search for a better solution. New calls are assigned and scheduled as they are received, and the assignment set is readjusted as the field service environment changes, resulting in global optimization. Each search operation is in response to either an incremental change to the assignment set such as adding a new resource request, removing a pending resource request, reassigning a pending resource request, or to a request for further evaluation. Thus, the search technique assumes that the existing assignment set is already optimized, and limits the task only to evaluating the effects of the incremental change. In addition, each search operation produces a complete assignment and scheduling solution. Consequently, the search can be terminated to accept the best solution generated so far, making the

technique an "anytime" search.

52 Claims, 10 Drawing figures

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